

CLAIMS

What is claimed is:

1. Automatic focusing camera comprising:

an image sensor;

5 a fixed lens system having a lens with an object side and an image side, the fixed lens system being located in a fixed position relative to the image sensor;

a mirror movably positioned between the image side of the lens and the image sensor, the mirror being located at an angle such that an image observed through the fixed lens system is reflected toward the image sensor; and

10 an actuator connected to the mirror that moves the mirror relative to the lens system to change a distance between the lens system and the image sensor to adjust an object focal length between an object and the camera.

2. The automatic focusing camera of claim 1, wherein the mirror is mounted on an arm having a pivot point located along an optical axis of the image sensor and the actuator
15 is connected to the mirror via the arm.

3. The automatic focusing camera of claim 2, wherein the pivot point is located on an opposite side of the image sensor from the mirror.

4. The automatic focusing camera of claim 1, wherein the actuator is a voice coil.

5. The automatic focusing camera of claim 1, wherein the mirror is mounted for generally linear movement parallel to an optical axis of the lens system.

6. The automatic focusing camera of claim 1, wherein the sensor is a single line sensor.

7. Method for automatic focusing of a camera having an image sensor and a lens system with a lens located at a fixed position relative to the image sensor, comprising:

providing a mirror movably mounted between an image side of the lens system and the image sensor; and

adjusting the position of the mirror to vary a length of an optical path between the imaging sensor and the lens system to vary an object focal point on an object being observed.

8. Method for automatic focusing of claim 7, further comprising:

moving the mirror linearly along a path parallel to an optical axis of the lens system to adjust the position of the mirror.

9. Method for automatic focusing of claim 7, further comprising:

moving the mirror about a pivot point located along an optical axis of the image sensor; and

receiving an image to be scanned as a single line in a plane of the image sensor.